

## Acute Abdominal Aortic Occlusion in a Paraplegic Patient: Case Report

### Paraplejik Hastada Akut Abdominal Aort Oklüzyonu: Olgu Sunumu

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#### ABSTRACT

Acute total occlusion of the abdominal aorta is a rare and life-threatening clinical condition. Thrombus is the most common etiology. Associated morbidity and mortality remain high, with high rates of limb loss, acute kidney injury, rhabdomyolysis, and death. Diagnosis is based on the physical examination at the time of presentation. Findings include absent pulses in the lower extremities, pale and cold skin, and neurological deficits. With this case, we aimed to remind that aortic total occlusion, a rare diagnosis, can also be present in patients who present to the emergency department with paraplegia.

**Keywords:** Aortic occlusion, Paraplegia, Thrombosis

#### ÖZET

Abdominal aortada gelişen akut total oklüzyon oldukça nadir görülen ve hayatı tehdit eden klinik bir durumdur. Akut arteriyel oklüzyon gelişen bir hastanın fizik muayenesinde genellikle etkilenen bölgede ağrı, soğukluk, solukluk, nabızsızlık ve parestezi tespit edilir. Bizim olgumuz daha nadir görülen bir semptom olan her iki bacakta kuvvet kaybı ile başvurdu. Genç yaşta olduğu ve ek hastalığı bulunmadığı halde kritik boyutta ve seviyede bir oklüzyonu mevcuttu. Bu olgu ile parapleji ile acil servise başvuran hastada nadir bir tanı olan aort total oklüzyonunun da olabileceğini hatırlatmayı amaçladık.

**Anahtar Kelimeler:** Aort oklüzyonu, Parapleji, Tromboz

## INTRODUCTION

Acute total occlusion of the abdominal aorta is a rare and life-threatening clinical condition.<sup>1</sup> Thrombus is the most common etiology. Associated morbidity and mortality remain high, with high rates of limb loss, acute kidney injury, rhabdomyolysis, and death.<sup>2</sup> Diagnosis is based on the physical examination at the time of presentation. Findings include absent pulses in the lower extremities, pale and cold skin, and neurological deficits. With this case, we aimed to remind that aortic total occlusion, a rare diagnosis, can also be present in patients who present to the emergency department with paraplegia.

## CASE REPORT

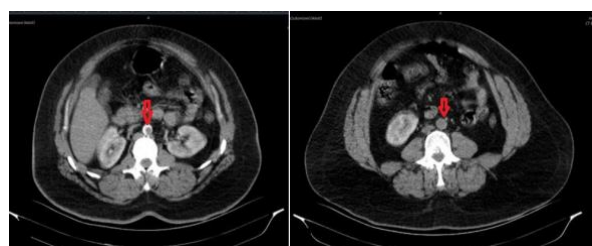
A 41-year-old female patient applied to our emergency department with complaints of weakness and pain in both legs that started approximately 1 hour ago. The patient had no history of illness in his medical history. The patient had no clinical history of Buerger or vasculitis. She was a smoker. There was no family history of this disease. There was also no lipid metabolism disease. At the time of admission, blood pressure was measured as 142/96 mmHg, pulse 118/min, SpO<sub>2</sub> 96%, temperature 36.4 °C, and fingertip blood sugar 98 mg/dL. In the physical examination of the patient; Glasgow Coma Scale score is 15. Showed no signs of meningeal irritation, no pathological reflexes, and she was agitated and paraplegic. Pulses in both lower extremities could not be taken from the femoral to the distal end. Both legs were cold, the left leg being more pronounced.

In addition to laboratory tests, the patient was asked for thorax and abdomen computer tomography (CT) angiography and brain CT scans to rule out central events. In laboratory examinations, pH: 7.32, lactate: 8, WBC: 12.28, and other laboratory values other than these values were within normal limits. There were no acute pathological findings on the patient's brain CT. On CT angiography, the abdominal aorta appeared occluded starting from the infrarenal level (Figure-1,2,3). Pain control was achieved with narcotic analgesics. In cardiac evaluation, it was observed that there was no pathology that could be a source of embolism. The patient was consulted with cardiovascular surgery. Preoperative preparations were made and he was taken into emergency surgery by the cardiovascular surgeon. Although the diagnosis was made quite quickly, the patient's right leg was amputated from the mid-femur level. It was thought that there was no myoneuropathic metabolic syndrome. It is thought that the sole reason for amputation is recurrent thrombi due to poor vascular structure. The patient's treatment stage was evaluated together with the cardiovascular surgery consultant, and

no endovascular treatment was planned for the patient. The patient, whose preoperative preparations were made, was taken to emergency embolectomy surgery by the cardiovascular surgeon in the third hour of her admission to the emergency room.

## DISCUSSION

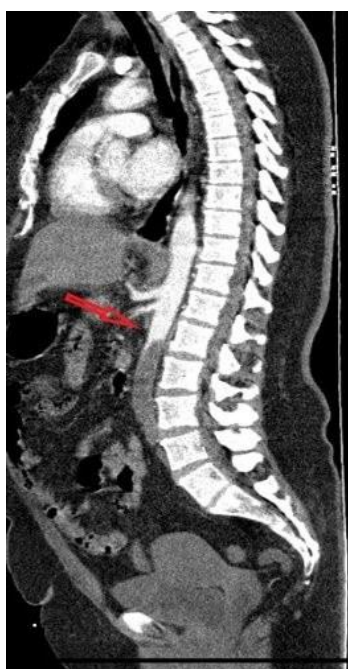
Complete occlusion of the abdominal aorta is a rare but potentially serious event.<sup>2</sup> The annual incidence of abdominal aortic occlusion is 2.7-5.0 cases per million people.<sup>3</sup> The most important etiology of abdominal aortic occlusion is atherosclerosis. Patients at highest risk for abdominal aortic occlusion include those with the same risk factors for atherosclerosis, such as smokers, those with hypertension, those with lipid metabolism disorders, and male patients.<sup>4</sup> On physical examination of a patient with acute arterial occlusion, pain, coldness, pallor, paralysis, pulselessness, and paresthesia are usually detected in the affected area.<sup>5</sup> Plegia at the time of presentation is a rarer condition. Apart from the classical symptoms, some symptoms such as abdominal pain, shortness of breath, nausea, fever and cough have also been reported in the literature.<sup>4</sup> It should not be forgotten in the differential diagnosis of patients whose presenting complaint is abdominal pain, flank pain, numbness in the extremities, and inability to walk. Since our case had pulselessness in the lower extremities, aortic dissection is also included in the differential diagnosis. However, chest pain or back pain was not predominant and CT angiography performed on the patient ruled out dissection. Likewise, saddle embolism was also excluded in CT angiography. The patient did not complain of abdominal pain. The reason for not having abdominal pain was interpreted as aortic occlusion starting from the distal SMA. Rapid diagnosis is important for mortality and morbidity. The mortality rate is mainly affected by the time of onset of clinical symptoms and the time until blood flow is restored.<sup>6</sup> In patients with suspected aortic occlusion in the preliminary diagnosis, evaluation should be done with CT angiography. After the diagnosis is made on imaging, urgent consultation with cardiac surgery is required. Treatment includes surgery, aspiration of thrombus, anticoagulant therapy, and heparinization.<sup>7-9</sup> The success of treatment is affected by the adequacy of collateral circulation and early intervention.



**Figure 1.** The abdominal aorta appears completely occluded starting from the infrarenal level



**Figure 2.** Coronal view of total occlusion



**Figure 3.** Sagittal view of total occlusion

## CONCLUSION

As a result, it should not be thought that the patient presenting with neurological deficit may have only neurological pathology; it should also be kept in mind that there may be additional systemic pathologies.

### Authorship contribution statement

Concept and design: GY.

Acquisition of data: İFŞ, AEÖ

Analysis and interpretation of data: RA.

Drafting of the manuscript: GY, NB.

Critical revision of the manuscript for important intellectual content: NB.

Statistical analysis: NB.

Supervision: MU, ST.

### Declaration of competing interest

None of the authors have potential conflicts of interest to be disclosed.

## Ethical approval

Written informed consent was obtained from the patient who participated in this case.

## Availability of data and materials

All data generated or analyzed during this study are included in this published article.

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